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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,387	02/15/2002	Jay H. McCandless	HAR66 816 CONT	9309
7590	05/06/2004		EXAMINER	
Duane Morris LLP Suite 700 1667 K Street, N.W. Washington, DC 20006			WIMER, MICHAEL C	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

10/075,387

Applicant(s)

MCCANDLESS ET AL.

Examiner

Michael C. Wimer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 69-82 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 69-82 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 20040422.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed April 2, 2004 has been entered.
2. An examiner's amendment to the record appears below and authorization for this examiner's amendment was given in a telephone interview with Mr. Patrick Muldoon on 22 April 2004.

The application has been amended as follows:

In Claim 72, lines 2 and 3; Claims 75 and 77, line 2 both occurrences; Claims 76 and 78, line 3, change "path" to --passage--.

3. These changes were made to eliminate any indefiniteness and confusion and to provide an antecedent basis in the claims, and were entered at this time by the examiner due to a previous oversight.

### ***Specification***

4. The disclosure is objected to because of the following informalities: On page 1 of the specification, it is suggested to identify and update the status of the copending applications.

Appropriate correction is required.

### ***Allowable Subject Matter***

5. The indicated allowability of claims 69-82 is withdrawn in view of the newly discovered reference(s) to Forti et al. (5364136). Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 102***

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6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 70-74 and 79-81 are rejected under 35 U.S.C. 102(b) as being anticipated by Forti et al. (5364136).

Regarding Claims 70,71,72,74,79 and 80, Forti et al. teach a microwave band, waveguide system for propagating a signal wherein the input signal is of a first polarization and exits the system with a second polarization (as taught in column 1, lines 24-31, wherein the waveguides are “misaligned”, e.g., with polarization axes having relative angles of ninety degrees”), with respect to Figures 1-4,12 and 17-22, the system comprising:

a first waveguide “G0f1” and a second waveguide “G0f2”, and also shown for example in Fig. 12, where these rectangular waveguides are rotated ninety degrees (column 3, lines 41-49) and carry the signal having the aforementioned polarizations from the system’s input to output, because they have respective (i.e., first and second) passages as recited,

a polarization plate defined by the two flanges “FL1” and “FL2” comprises a slot “AC” for propagating the signal, and being substantially similar in shape to the first and second passages (see Fig. 1, where the dashed-outline of the rectangular waveguide “G02” in Fig. 2 connects with the plate “FL2” via recess “NI2” of Fig. 4; and see Fig. 3, where the dashed-outline of the rectangular

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waveguide "G01" in Fig. 2 connects with the plate "FL1" via recess "NI1" of Fig. 4), "spot faces" CA1 to CA9 (in each flange) which are sequentially rotated through the thickness ("S" in Fig. 9) of each flange and the slot is oriented so as to be rotationally offset and having a cumulative rotation of forty-five degrees (column 2, lines 59-61) relative to the orientation of the first and second passages, so that the signal enters the waveguide system oriented with the first polarization and exits the waveguide system with the second polarization; wherein the polarization plate includes a first tapered portion (e.g., the surface defined by "CAi" to "CAn" in Fig. 9 or that in Fig. 5 in the respective plates/flanges), to thereby create a first transition region between the first passage and slot, all arranged as claimed.

Regarding Claim 73, the range recited is the microwave band, for which the system of Forti et al is used.

Regarding Claim 81, the length of the slot or thickness "S" is such that it is selected to provide in a predetermined manner a desired signal path attribute and impedance of the signal (see column 2, 44-55).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 69 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forti et al. (5364136).

Regarding Claim 69, although Forti et al show all flanges with a rotational slot (for changing the polarization of the signal), a skilled artisan recognizes it to be obvious to employ the type of flange taught where the polarization of the input waveguide is the same as the output waveguide, particularly in view of the suggestion by Forti et al at column 5, lines 1-11, where "the flanges are suitable for composing joints with angular rotations of any magnitude between the guides", which includes zero degrees or the same polarization.

Regarding Claim 82, the issue of a "desired impedance" within the signal path attribute is obtained because the polarization rotation allows a suitable impedance to the signal such that it propagates with efficiency. A skilled artisan would find such a design to be obvious in terms of the desired impedance.

10. Claims 75-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forti et al (5364136) in view of Zeleski (2628278).

Regarding Claims 75-78, the waveguide system of Forti et al is discussed above and is intended to be used in a microwave telecommunications system with wireless set and antenna as set forth in column 1, lines 38-42 of Forti et al. No specific coupling of the input and output waveguides with the wireless set and antenna are specifically shown, but are implied and certainly leads the skilled artisan to connect the radio and antenna on opposite ends of the waveguide system. Thus, Zeleski is cited as evidence of obviousness and as resolving the

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level of ordinary skill in the antenna art, and teaches in column 5 an antenna to be fed/connected to an end of the waveguide 44 and shows a polarization rotator 24-33 and 37-43 interconnected between rectangular waveguides with the input end connected to the radio/transmitter 34. It would have been obvious to the skilled artisan to employ the waveguide system of Forti et al in a telecommunications system with radio and antenna such as taught by Zeleski.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael C. Wimer  
Primary Examiner  
Art Unit 2821

MCW  
4/29/04